

Figure 1A

1. Deposit lattice mismatched layer at low T

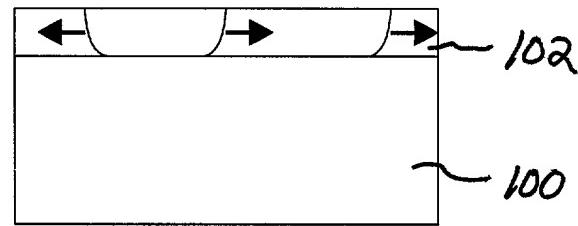
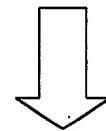
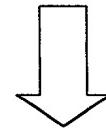


Figure 1B

2. Anneal at high T to increase dislocation flow and reduce dislocation density



4. Repeat anneal and deposition until desired structure is achieved

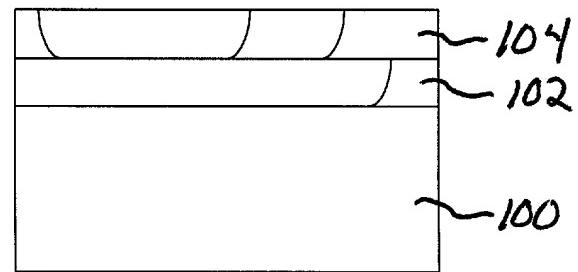
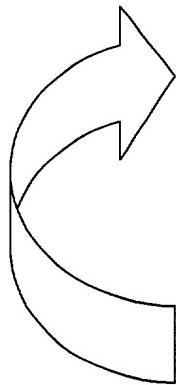


Figure 1C

3. Deposit subsequent layer with increased lattice mismatch at low T

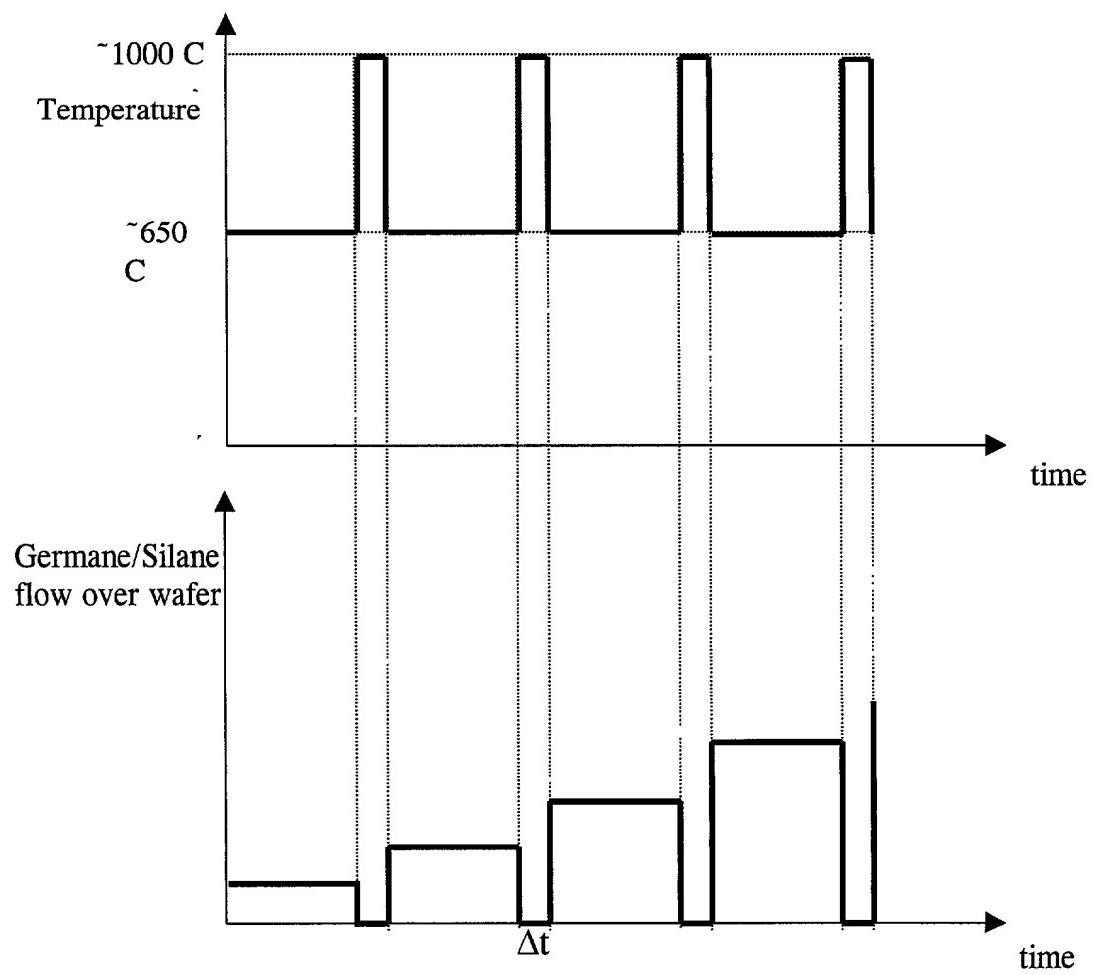


Figure 2

**Glide Kinetics Series (30% Ge): Field TDD vs.
Growth T**

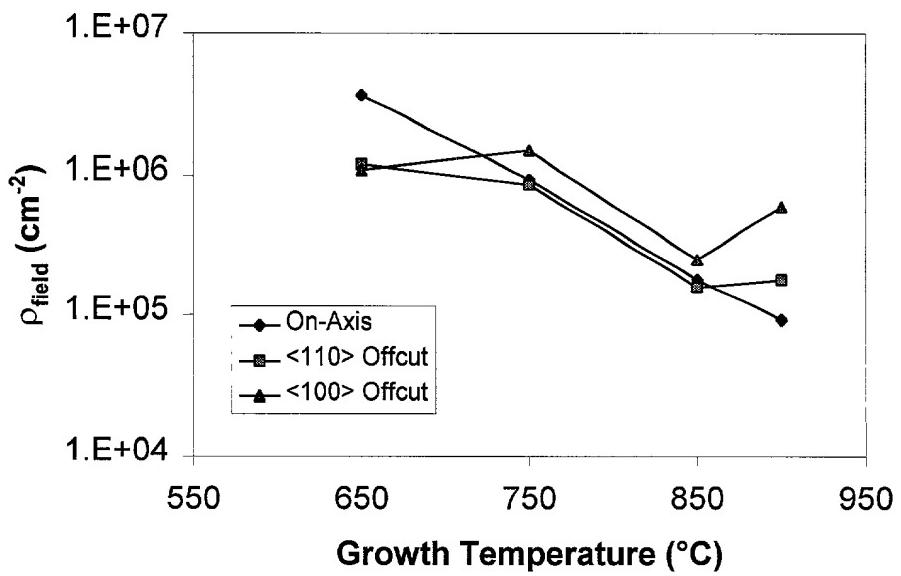


Figure 3

Change in Effective Strain to Fit Data

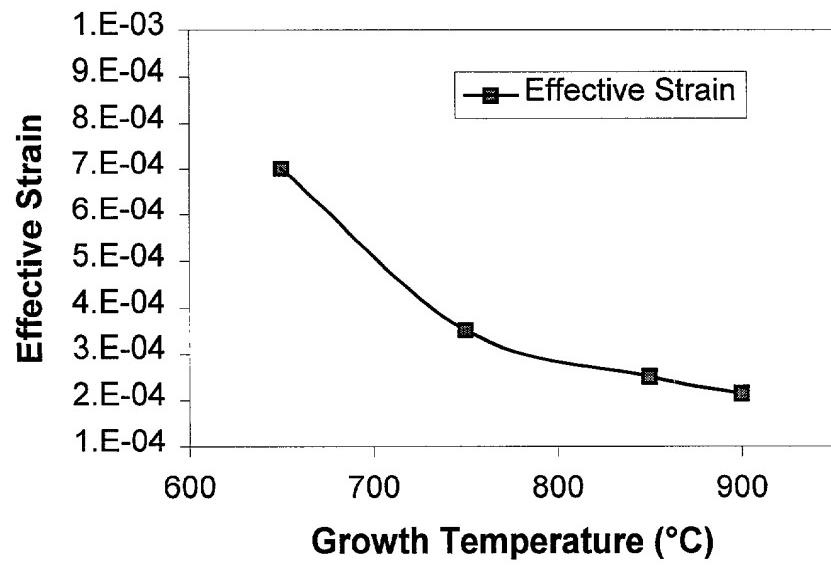


Figure 4

Sample	Total Threading Dislocation Density (#/cm ²)	Field Threading Dislocation Density (#/cm ²)
20% SiGe on Si with graded buffer as grown	1.36×10^6	1.31×10^6
20% SiGe on Si with graded buffer after a 5 min anneal at 1050°C	7.25×10^5	5.48×10^5

Figure 5